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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/129,958	08/06/1998	ALLEN P. MILLS JR.	LUTEC0008	5513

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EXAMINER

MARSCHER, ARDIN H

ART UNIT	PAPER NUMBER
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1631


DATE MAILED: 06/26/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No. <b>09/129,958</b>	Applicant(s) <b>Mills, Jr., et al.</b>
Examiner <b>Ardin Marschel</b>	Art Unit <b>1631</b>



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 7/24/02, 11/20/02, & 4/1/03
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 9-13, 18, 19, 22-24, 27, 36, and 37 is/are pending in the application.
- ~~5a) Of the above, Claim(s) 1-8, 14-17, 20, 21, 25, 26, & 28-35 have been canceled. Case withdrawn from consideration.~~
- 5) ☒ Claim(s) 9-13 and 27 is/are allowed.
- 6) ☒ Claim(s) 18, 19, 22-24, 36, and 37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Applicants' arguments; filed 7/24/02, 11/20/02, and 4/1/03; have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

NEW MATTER

Claims 18, 19, 22-24, 36, and 37 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The NEW MATTER which has been added previously via claim 15, and now claim 36, is that of utilizing two vectors wherein each vector is in a different abstract dimensional vector space. For vector  $V$  the space is  $m$ -dimensional vector space as set forth in lines 2 and 7. For vector  $W$  the space is apparently  $n$ -dimensional vector space as set forth in lines 3 and 9-10. This apparent vector space for vector  $W$  is apparently  $n$ -dimensional vector space due to the components for  $W$  being cited as " $W_j$  for  $j = 1, 2, \dots, n$ " in line 3 of claim 15. There are no limitations as to what values that " $m$ " and " $n$ " may have therefore including

vectors wherein  $m = n$  as well as vectors wherein  $m \neq n$ . Consideration of the instant disclosure as filed has failed to reveal vector manipulation, especially regarding the outer product practice of claim 36 wherein the vectors are in different dimensional space, such as where  $m \neq n$ . Such embodiments are therefore NEW MATTER. Applicants argue that vector manipulations are well known in the art to include calculation of an outer product matrix of different dimensions. In response, what is well known in the art does not satisfy the written description requirement of 35 U.S.C. § 112, first paragraph. This rejection is based on a lack of written description of such different dimensional space vectors. Therefore the argument of applicants is non-persuasive. This rejection is necessitated by amendment that added new claim 36.

Claim 37, part (a), third line therein, cites  $T_{ij}$  being a "sum" of all of the outer products. No summation of such outer products has been found as filed. This lack of written description of this limitation causes this NEW MATTER rejection. This rejection also applies to claimed dependent from claim 37 directly or indirectly due to their dependence. This rejection is necessitated by amendment.

#### VAGUENESS AND INDEFINITENESS

Claims 18, 19, 22-24, 36, and 37 are rejected, as discussed below, under 35 U.S.C. § 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 36, lines 1-3, sets forth a method in the claim directed to obtaining the outer product matrix of two vectors. Confusingly, consideration of the actual claim steps has failed to reveal the obtaining of such an outer product. It is noted that the last 3 lines of claim 36 cite the detecting of dimeric concentration of I-th and j-th portions of such a product, but the outer product per se is not obtained therein or in any other claim step. Therefore, the claim is vague and indefinite as to whether the metes and bounds of the claim is controlled by the first three lines wherein an outer product is completely obtained or whether the actual claim steps which only form a portion of such an outer product control the metes and bounds of the claimed subject matter. Clarification via clearer claim wording is requested. Applicants argue that claim 36 clearly recites the steps for obtaining an outer product vector and that the matrix elements are represented by the dimeric concentrations. It is acknowledged that lines 4-5, cites the subjecting to obtain oligomers to represent an outer product but that this is seemingly different in wording from the "outer product matrix" to be obtained in line 2 of claim 36. Thus it is still unclear what relationship exists, if any, between the first three lines of

claim 36 and the active steps in the claimed method. It is also acknowledged that the last 3 lines of claim 36 detecting the concentration of I-th and j-th component concentrations for the vectors V and W but that the relationship to the outer product matrix is also unclear from said detecting and is not described anywhere in claim 36. Therefore the argument of applicants is non-persuasive. This rejection is necessitated by amendment that added new claim 36.

In claim 37, first 4 lines within part (a), a memory matrix is defined as the outer product, but confusingly is never further related to the method as described in lines 1-4 of claim 37. What is the use or cooperativity of the outer product in part (a) in the claimed method of claim 37? Clarification is requested via clearer claim wording. This unclarity is also present in claims which are dependent directly or indirectly from claim 37 due to said dependence. Similarly, the claim 19 limitations regarding the matrix  $T_{ij}$  are confusingly not related to other parts of the claim 37 method from which claim 19 depends similar to the first 4 lines of part (a) of claim 37. Clarification via clearer claim wording is requested. This unclarity is also present in claims which are dependent directly or indirectly from claim 37 due to said dependence. This rejection is reiterated from the previous office action but necessitated by amendment due to newly added claim 37.

Claims 9-13 are allowed.

Applicants' amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The CM1 Fax Center number is either (703)308-4242 or (703)305-3014.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ardin Marschel, Ph.D., whose telephone number is (703)308-3894. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, Ph.D., can be reached on (703)308-4028.


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Any inquiry of a general nature or relating to the status of this application should be directed to Legal Instrument Examiner, Tina Plunkett, whose telephone number is (703)305-3524 or to the Technical Center receptionist whose telephone number is (703) 308-0196.

June 23, 2003

  
ARDIN H. MARSCHEL  
PRIMARY EXAMINER